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THE SOCIAL FORCES.

CONTRIBUTIONS TO SOCIAL PHILOSOPHY. VII.

THE second, or Greek, component of the word *sociology* is the one that is usually employed in the names of sciences. While etymologically it only signifies a *treatise* on some subject, it has come to signify a treatise of a systematic kind on a subject that can be reduced to law. The proper designation of a true science should have the termination "nomy" or "onomy," from the Greek νόμος, a law. Especially should this be the case for the abstract sciences, or those dealing primarily with laws instead of concrete objects, such as are all five of the sciences of the Comtean "hierarchy." As a matter of fact, the name of only one of these sciences, astronomy, has the proper termination. *Bionomy* has already been used,¹ and *psychonomy* and *socionomy* are naturally formed, but physics and chemistry do not readily admit of a similar modification. The former might logically be divided into *baronomy* and *etheronomy*, the first embracing the gravitant forces, and the second magnetism, electricity, and all the radiant forces. Chemistry, perhaps derived from Greek χημία, or from χήμη, a measure, or even from χημία, the Greek form of Khmi, a name for Egypt, has come to us through the Arabs in the form *alchemy*, which was variously spelled in early English literature, one of the variants being *alconomy*, said to have been employed from its analogy to astronomy. There would be no impropriety in restoring this variant and thus completing the series: Astronomy, baronomy, etheronomy, alconomy, bionomy, psychonomy, socionomy.

The scientific idea embodied in the word *law* is uniformity of movement. But moving bodies, such as atoms, collide and transfer their motions to others. Upon this is founded the

¹ Comte, *Phil. Pos.*, III, 331.

modern doctrines in mechanics discussed under the general name of the "theory of units." The three ultimate elements in this theory are mass, space, and time. Motion being assumed, the *rate*, or velocity is equal to the space divided by the time. When the mass, or quantity of matter is taken into the account there arise four manifestations of force. The simplest of these is mere *momentum*, which is equal to the product of the mass into the velocity. The next simplest stage is *force* proper, which is the mass into the rate of change of velocity, or acceleration. The third is *energy*, as now understood by physicists, *i. e.*, kinetic energy, which is half the product of the mass into the square of the velocity. The fourth stage represents the *power*, or rate at which energy is produced or consumed. The distinction between these fundamental quantities is clearly shown by the following algebraic statement, showing how the units of mass, space and time enter them. Denoting these units by *m*, *s*, and *t*, respectively, we have :

$$\text{Momentum} = \frac{m s}{t}, \text{ or } m v$$

$$\text{Force} = \frac{m s}{t^2}, \text{ or } \frac{m v}{t}$$

$$\text{Energy} = \frac{m s^2}{t^2}, \text{ or } m v^2$$

$$\text{Power} = \frac{m s^2}{t^3}, \text{ or } \frac{m v^2}{t}.$$

The theory of units is applicable to every true science in proportion as it can be reduced to exact measurement. In mechanics, astronomy, and physics the phenomena can, for the most part, be thus reduced, but in the more complex sciences, at least in their present state, this can be done only to a limited extent. It must not, however, be inferred from this that exact laws do not prevail in these domains. They are as rigid here as in the simpler ones, and the only imperfection is in our knowledge of them. The acceptance of this statement is what constitutes scientific *faith*. Those who do not accept it and doubt the uniformity and invariability of natural law in the fields of

life, mind, and human action, simply lack faith in the order of the universe.

In a certain very wide sense all force is one, but from its different modes of manifestation it is convenient to recognize a number of forces. The law of the conservation of energy, or of the correlation or transmutation of forces, shows that all these different forms of the universal force are interconvertible. Astronomy and baronomy deal with the gravitant forces, while etheronomy and perhaps alconomy, deal with the radiant forces, which seem to be opposed to the former. The workings of the universal force in bionomy we call vital or biotic, while in psychonomy we call them psychic. For socionomy I long ago proposed the name "*social forces*,"¹ not as an absolutely new expression, but as the first attempt to give it a definite technical meaning. For I went into a somewhat elaborate explanation of what constitutes the social forces, and especially of what they have accomplished and how they have accomplished it. In the second volume (chap. viii) I essayed to prove that they are true natural forces and obey the Newtonian laws of motion. But I did not in that work attempt to show that sociology derives its primary laws directly from psychology. This was done in my *Psychic Factors of Civilization*, published in 1893. In the Fifth paper of this series a portion of this argument was briefly recapitulated. The present paper can at best be only a similar brief recapitulation of the general treatment of the social forces as set forth in those works.

All sciences, in order to be such, must be domains of forces. Until a group of facts and phenomena reaches the stage at which these can be generalized into laws, which, in turn, are merely the expressions of the uniform working of its underlying forces, it cannot be appropriately denominated a science. Biology, since Darwin, has fairly entered upon this part of its history. Psychology and sociology have scarcely reached it. Most of the work in both is still confined to the observation of isolated facts without much attempt at their coördination or reduction to law.

¹ *Dynamic Sociology*, New York, 1883, Vol. I, chap. vii, p. 468 ff.

In psychology, as we saw, forces have as yet scarcely been recognized. Philosophers were content, until within quite recent times, to study the phenomena of the most derivative of the human faculties, and scarcely a suggestion can be found that these faculties could have been naturally produced. Intellect, memory, reflection, imagination, and other admittedly remarkable phenomena have been long studied, and a vast amount of speculation has been done in these fields. But the affective side of the mind in which the forces reside has been ignored so far as any attempt to understand its relations to the rest of mind is concerned. The appetites, passions, and even emotions, though recognized as having a necessary relation to ethics, have not been thought of as an integral part of mind. They are in fact the genetic source of all the other faculties, the seat of all psychic power, and the basis of any true science of mind.

In a somewhat similar manner the dynamic basis of society has been overlooked. The cause, not only of the primary fact of association itself, but of all other human activities, is *appetite*. Whether looked at from the standpoint of function or from that of feeling, *i. e.*, whether we consider the end of nature or that of the creature, it comes to the same thing. Every act proceeds from motive, and that motive can be none other than the satisfaction of some want. The capacity to want is planted in the organic structures. It is the necessary concomitant of the capacity to feel. The primary form of feeling is intensive, *i. e.*, it is either agreeable or disagreeable, pleasure or pain in some degree, however slight. This is the incipient distinction between good and evil. The pleasurable is the good, the painful is the bad. Every organism is thus constituted as a condition to its existence, and equally essential is it that the impulse should exist to perform the appropriate acts. This impulse causes the creature to seek the good and shun the evil. All this is readily accounted for on the leading principle of modern biology, natural selection, or, as I prefer to call it, the principle of advantage. In short, *desire*, taken in its widest sense, both positive and

negative, is the real force in the sentient world. It is the dynamic agent in the animal world including the human sphere, and therefore constitutes the *social force*. It is essentially psychic, and this is the bond which lashes sociology so directly and so firmly to psychology.

The same reason exists, and no better, for speaking of this phenomenon in the plural and recognizing the existence of *social forces* as we saw for speaking of the universal force in the plural and recognizing physical forces. Just as gravitation, heat, light, etc., are only so many modes of manifestation of the universal force, so the various social forces that may be separately considered are only so many modes of manifestation of the one social or psychic force. Indeed, this psychic force itself is in its turn only a mode of manifestation of the universal force. "Desire is the all-pervading, world-animating principle, the universal *nisus* and pulse of nature, the mainspring of all action, and the life-power of the world. It is organic force. Its multiple forms, like the many forces of the physical world, are the varied expressions of one universal force. They are transmutable into one another. Their sum is unchanged thereby, and all vital energy is conserved. It is the basis of psychic physics and the only foundation for a science of mind.

It should, however, be added that the parallel between physics and *psychics*, as thus defined, fails at one point. While, so far as is known, there has never been any loss of psychic energy, it is certain that there has been an immense increase of it. Indeed, time was when none existed. It has developed or been evolved with all organic nature and has increased *pari passu* with the increase of mind and the development of brain. Complete analogy between the organic and inorganic forces is not reached until it is recognized that the former are derived from the latter, and that vital and psychic forces are simply additional forms of the universal force. The soul of man has come from the soul of the atom after passing through the great alembic of organic life."¹

¹ *Psychic Factors*, pp. 55-56.

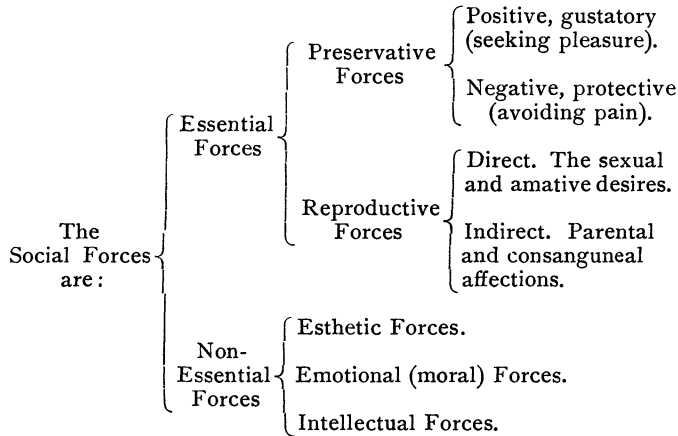
This new force represents a step forward in the evolution of the world. There had been many such steps before this one was taken, and, as we shall see in a future paper, there has been at least one since. Each such step represents progress, and this progress is always in the nature of evolving new modes of manifestation of the universal force. Not only so, but each successive step secures a better, *i. e.*, a higher, more efficient mode of manifesting it. "The course of evolution . . . has been in the direction from the unorganized and inefficacious toward the organized and efficacious through the process of storing energy in appropriate forms. This has taken place by a series of successive steps, each resulting in a more efficient product, that is, one possessing, in addition to the properties of antecedent products, some new property with a special power of its own capable of better work."¹

Such is the essential or cosmical nature of the social forces, and it remains to consider in a general way the mode of their operation. It is clear that we must proceed exclusively from the standpoint of feeling. Each individual or social unit must be regarded as a magazine of feelings, for the most part in the nature of unsatisfied desires, and therefore representing as much force as it requires to satisfy those desires. This energy is always to a large extent potential rather than kinetic, but the leading problem of sociology is how to convert the potential energies of society into kinetic energy. The amount of energy thus set free is the true measure of the strength of the social forces at any given time.

The classification of the social forces from the standpoint of feeling is substantially the same as from that of function. This results from the fact already explained that both lead to the same result and are the necessary correlates of each other. In giving names to them in *Dynamic Sociology* I employed terms that connote function instead of feeling, because the latter would have been difficult to find. This is due to the functional

¹ The Natural Storage of Energy. *The Monist*, Vol. V, Chicago, January 1895, p. 257.

side being almost the only one ever mentioned, so that, not only are there no well-crystallized terms in which to describe the side of feeling, but even with the most careful explanation it is difficult to convey the idea. This is illustrated by the explanatory words which I placed after the several classes of essential forces in the table of classification on page 472 of Vol. I, which is here reproduced without change:



I have seen no reason to modify this classification in any essential respect. Some slight change in the phraseology might adapt it better to such a cursory treatment as I am now making, and place certain of its aspects in a somewhat clearer light. The "Preservative Forces" may be called the Forces of Individual Preservation; the "Reproductive Forces" may be called the Forces of Race Continuance; and the "Non-essential Forces" as a whole may be called the Forces of Race Elevation. Attention may also well be drawn to the fact that the "Essential Forces" relate primarily to bodily or physical wants, while the "Non-essential Forces" relate chiefly to mental or spiritual needs. These terms still connote functions, which seems unavoidable, and the Social Forces may be reclassified, as follows :

Physical
Individual Preservation

Positive
Negative
Race Continuance
Direct
Indirect
Spiritual
Esthetic
Moral
Intellectual

It is always a question, when treating of the bodily or physical social forces, whether it is preferable to begin with the preservative or the reproductive group. There are many reasons why the latter seem to be the more fundamental. The race is more important than the individual, and in developed society the family is the most important social structure and the basis of the state. But going farther back and tracing the two principles entirely through the biological series, we at last arrive at the most fundamental of all the truths involved, viz., that in its ultimate analysis and most original form, reproduction is merely a mode of nutrition. Resting the case upon this primordial truth, I will adhere to the order of treatment which I adopted in *Dynamic Sociology* and make the nutritive group the first of the essential social forces.

Forces of Individual Preservation.—When we come to deal with the social forces from the subjective side, *i. e.*, from the standpoint of feeling, we have to consider their direct effects as true natural forces. The individuals in whom they reside must be represented as impelled by them to perform acts, and as obeying these impulses as rigidly as physical bodies obey the influences that cause them to move. These impulses in human beings are of course exceedingly complex and subtle, so that in many cases this does not seem to be true, but this is because we are unable to take them all into account. In the advanced stages of human development when intellectual and moral influences have entered the field the case is still more complicated, but even then, if there is a social science, what I have characterized as scientific faith, when it is fully devel

oped, does not permit any doubt to come in and qualify in the least the universal law, and we must say, with Immanuel Kant, that "if we could investigate all the phenomena of his [man's] volition (*Willkuhr*) to the bottom there would not be a single human act which we could not with certainty predict and recognize as necessarily proceeding from its antecedent conditions."¹

The preservative forces are among the simplest of man's nature. They may be divided into two classes, negative and positive. The negative ones are those that protect him from injury and destruction. Whatever produces pain is shunned, and even if nothing were known about death, every individual would fly from whatever experience had taught him to be productive of painful effects. The mere escape from physical danger and from enemies is only a small part of the effect of this class of forces. In man the most important sociological effects have been the many ways in which it has led him to provide for himself clothing and shelter as a protection from the elements and from a hostile environment in general. The application of all this to the science of sociology is too obvious to require elaboration.

We will therefore pass to the other or positive class of preservative social forces. These have directly to do with the function of nutrition. The fact that every one will seek food is so patent that no one ever stops to reflect upon a possible condition in which this should not be the case. Yet such a condition is easy to imagine. All we have to do is to suppose an individual devoid of taste and whose stomach is incapable of the particular sensation called hunger. This sensation is very different from the ordinary forms of pain, and it would make no difference how painful the sensation of an empty stomach might be, if it did not take this particular form no effort would be put forth to supply its needs. Hunger is a form of desire, and as such impels to the appropriate action for its satisfaction. Ordinary pain, no matter how acute, does not thus impel action. The case is not

¹ Kritik der reinen Vernunft, ed. Hartenstein, Leipzig, 1868, p. 380.

a purely hypothetical one. There have been recorded in the medical books many cases in which all sense of taste was wanting, and the temporary loss of appetite is a common occurrence. Some cases have been brought to light in which this state was chronic, and strenuous efforts were made artificially to introduce into the apathetic body sufficient nutritive material to sustain life. But it is obvious that in any but such exceptional cases, situated in the midst of an environment of intelligence and scientific skill, such a condition would speedily result in death, and that without the aid of natural appetite no creature, however intelligent, scientific, or skilled, could persist. *A fortiori*, no inchoate and undeveloped being could survive under such circumstances. If any such creatures have by chance been produced they must have immediately perished and left no record of their evanescent career. This alone is adequate to account, on sound, scientific principles, for the existence of the sensation of appetite. If, in the infinite number of devices which we may conceive Nature to have tried in her effort to discover a protective principle no such quality had been found there could have been no animal world.

It would be easy to carry this reasoning much farther and to show that the principle applies equally to every other form of desire. Indeed, it is the only conceivable explanation of the fundamental phenomenon of feeling of whatever kind. Pleasure and pain are simply devices of Nature for the preservation of such organic beings as have no other adequate means, and the existence of a sentient world is its natural result. Desire is that form of remembrance, either original or inherited, of pleasurable sensations which prompts the acts necessary to their repetition, and from the manner in which it has originated as a condition to survival, the satisfaction that results is that which maintains life. Pain, though, as it is now easy to see, a fundamentally different thing, and not in any proper sense the opposite of pleasure, had a similar origin, and the class of negative forces last considered result from the device called pain, which all creatures susceptible of it instantly fly from, and thus pre-

serve their existence. Such is the scientific solution of the problem of evil which has been so long discussed without reaching any satisfactory answer. It is not a moral problem at all, but a biological or psychological one, and is exceedingly simple. To live is to suffer, as the pessimists assert, but to the sociologist the problem is how to minimize the amount of suffering and magnify the volume of life. He is on strictly scientific ground. The problem is a practical one, and although the complete abolition of pain, like that of friction in machinery, is in the nature of things impossible, still, approaches toward it, in the one case as in the other, may be and are continually made.

These two innate tendencies or impulses of human nature, to escape destructive influences and to seek nutritive substances, constitute the preservative forces of society. They are universal, invariable, and reliable, quite as much so as the physical agencies with which mechanical science deals. Sociology must build upon them as physics builds upon the laws of gravitation, heat, light, or electricity, and only thus can sociology become a science.

Forces of Race Continuance.—There is no difference in the principle underlying the preservative and the reproductive forces. Independently of the fact above referred to that the latter in the last analysis prove to be only a mode of the former, we see that the law of advantage must secure the one as much as the other. In all the higher forms of animal life, and emphatically in man, the reproductive force is, like the preservative, an appetite, and its strength is as much greater than other appetites as the function is more imperative. It is equally universal, invariable, and reliable, and upon it as a true natural force sociology can build with perfect safety.

Under the influence of intellectual development, which, as we saw in the fourth paper, is attended by a corresponding increase in man's sympathetic nature and in his esthetic tastes which shape his ideals, this mainspring of race preservation becomes spiritualized and permeates society in the form of a refining and ennobling influence, which, although far more

powerful than the primary appetite, is infinitely more complex and subtle, and hence becomes a much more difficult agent for the sociologist to handle. Philosophers have therefore fought shy of it and abandoned it to the poets and romance writers. This field is therefore almost wholly new to science, and anyone who attempts to enter it from the scientific point of view is sure to be looked upon with suspicion. He will usually be regarded not only as having departed from the scientific method but as displaying a diseased mind. But this is not necessary. It is possible to deal with this subtle force in a scientific way. In fact, sociologists must do this or leave out of view one of the leading factors of the science. This transformed and transfigured agency in advanced societies must be recognized and appreciated at its full value. For the sociologist love is not a sentiment in the popular sense; it is a *principle*. It is the second, if it is not the first, of the great powers that propel the social machinery.

Forces of Race Elevation.—The two classes of forces thus far considered are absolutely essential to life. Failure either to preserve the individual or to continue the race would equally bring society to an end. Man's mental or spiritual wants are not thus imperative. From the standpoint of function the forces of race elevation are not essential. But from the present standpoint, viz., that of feeling, and also at the same time that of social advantage, they assume an even greater importance. It was shown in the fifth paper that they contribute the larger share of the volume of social good; that while their "necessity" is less their "utility" is greater. The point of view of that paper was that of the individual, but this is equally true from the point of view of this paper, which is that of society. The efforts put forth to secure the higher order of individual good at which they aim result in a correspondingly higher order of social good. The good sought by the lower impulses has for the most part only a statical value. Although the efforts put forth necessarily, though unconsciously, produce change and progress, still this is small from the very fact that it is unconscious. The higher impulses, on the con-

trary, set up for themselves conscious ideals, esthetic, moral, intellectual, and pursue them till they are attained. They are therefore chiefly dynamic.

Here is perhaps the place to bring forward one of the most far-reaching laws in the domain of sociology, viz., that the relative value of feeling and function is not a fixed but a variable quantity, and that throughout organic evolution this ratio increases in favor of the former. More precisely stated, the law is that while function is fixed, feeling increases somewhat in proportion to development. It would be easy to illustrate this in the lower orders of life where everything seems to be subordinated to function, and nature seems wholly indifferent to feeling. In biotic progress it is obvious that the capacity for both pleasure and pain increases with the advance in structure. The truth is exemplified even in cases of degeneration where the opposite obtains. But it is still more apparent in man, where the psychic and especially the intellectual element so largely enters in. All that was said in the fifth paper relative to the object of man and that of nature applies at this point. There has been a steady rise, as it were, in the price of life. The lowest savages value life at a very low figure and throw it away on the slightest provocation. The value put upon human life is one of the safest tests of true progress. The gradual abolition by the most advanced nations of the so-called code of honor is one among many of the signs of this advance. Even the dying out of the spirit of martyrdom, regarded by many as a mark of moral degeneracy, is, on the contrary, an assertion of the growing value of life, and as such is a step forward.

But it is not life alone that is valued; it is rather what life affords. The primitive man is not only indifferent to life, but he is also indifferent to pain, as witness the horrible mutilations to which savages so often voluntarily submit, as we are told, without manifesting the usual reflex movements which even the thought produces in us. Here, of course, comes in the principle of *anticipation* which I have discussed elsewhere.¹ The savage,

¹ *American Anthropologist*, Vol. VIII. Washington, July 1895, p. 254.

like the animal, lives chiefly in the present, and does not suffer the acute pains which a developed imagination enables the more refined organizations to represent in advance to the mind.

But most important of all is the growing sense of *good* which equally characterizes the progress of intelligence. Not merely does man more and more value life and shrink from pain, but he progressively enhances his estimate of enjoyment, and properly so. This is to him the only good, and having been developed as a correlate of function it is safe in the long run to trust it as the expression also of universal or cosmical good—or, if any prefer, of divine good. It has served this purpose well thus far, and upon those who deny it this function rests the burden of proof. What specially concerns the sociologist is the fact that with the development of the race more and more attention has been devoted to attaining the satisfactions of life, until these become in the most advanced societies the real if not the avowed ends of existence.

To the credit of mankind be it said, moreover, that in all peoples at all developed, the lower satisfactions come gradually to constitute only a subordinate part of the object of existence, and more and more effort is expended in attaining those satisfactions which, though not essential to self-preservation or race continuance, possess for all elevated natures a far higher value. An ascending series of these was drawn up in the fifth paper, and their increasing worthiness is unaffected by the proof there presented that the amount of satisfaction obtained is greater at each step as we rise in the scale. It is moreover remarkable that this series, arrived at from the strictly psychological point of view, as an attempt to analyze the subjective qualities of the mind should harmonize so closely with the classification which the sociologist must make of the social forces.

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